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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,999

02/10/2006

Masayuki Yoneda

06080LH

7481

1933 7590 02/21/2007

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC

220 Fifth Avenue

16TH Floor

NEW YORK, NY 10001-7708

EXAMINER

JENKINS, JERMAINE L

ART UNIT

PAPER NUMBER

2855

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/567,999	Applicant(s) YONEDA ET AL.	
	Examiner Jermaine Jenkins	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8 is/are rejected.
- 7) ☒ Claim(s) 4 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02102006</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

1. Claims 3 & 4 are objected to because of the following informalities: The phrase "stopper members" is not referred to in claim 1 that causes a 112 2nd indefiniteness rejection issue. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Onishi (6,019,135).

In regards to claim 1, Onishi teaches a pressure sensor device having a diaphragm (86) in which a strain resistance gauge being formed in a surface, and a stopper member (89) including a concave portion made up of a curved surface parallel

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to a surface formed by displacement of the diaphragm (86), the concave portion being disposed so as to face the diaphragm (86) (Column 7, lines 41-55; See Figure 1).

With respect to claim 2, Onishi teaches wherein stopper members (89, 72, i.e. saucer-shaped recess portion) being so disposed as to face both sides of the diaphragm (86) (The portion, 72, can act as a stopper when the diaphragm deforms toward the portion; therefore, the portion is also being read as stopper; See Figure 6).

With respect to claims 3 & 8, Onishi teaches wherein the curved surface of the concave portion in each of the stopper members is formed into a curved surface in which when the diaphragm (86) has a radius of r , a thickness of t , and a flexural rigidity of D , depth y at a distance x from the center of the diaphragm (86) in relation to operating pressure for protection against maximum pressure p is expressed by a quartic function:

$$Y = pr^4 (1 - x^2/r^2)^2 / 64D$$

$$D = Et^3 / 12 (1 - \nu^2)$$

where E is Young's modulus, and ν is Poisson's ratio (Column 6, lines 25-40).

Allowable Subject Matter

3. Claims 4 & 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 5-7 are allowed.

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5. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose or suggest a pressure sensor device having a pair of stopper members having respective concave portions in the shape of curved surfaces parallel to surfaces formed by displacement of the diaphragm, the stopper members being disposed in both sides of the diaphragm so that the concave portions face the diaphragm; and a base having fluid paths that lead a pressure-transmitting medium from top portions of the concave portions in the stopper members to both sides of the diaphragm and a pair of pressure-receiving portions connected to the respective fluid paths to transmit pressure to the pressure-transmitting medium injected into the fluid paths.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermaine Jenkins whose telephone number is 571-272-2179. The examiner can normally be reached on Monday-Friday 9am-530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jermaine Jenkins
A.U. 2855


EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800